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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/855,875 | 05/15/2001 | Jeremy H. Brown | 0050.2010-002 | 1485 |

7590 02/23/2004
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EXAMINER

MCLEAN MAYO, KIMBERLY N

ART UNIT PAPER NUMBER

2187

DATE MAILED: 02/23/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

dm

Office Action Summary

Application No.

09/855,875

Applicant(s)

BROWN ET AL.

Examiner

Kimberly N. McLean-Mayo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-6, 10-15, 19-24, 28-33 and 37-40 is/are rejected.
7) ☒ Claim(s) 7-9, 16-18, 25-27 and 34-36 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The enclosed detailed action is in response to the Amendment submitted on December 2, 2003.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5-6, 10, 14-15, 19, 23-24, 28, 32-33 and 37-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Fox et al. (USPN: 5,953,522).

Regarding claims 1, 5, 10, 14, 19, 23, 28 and 32, Fox discloses a data processing system comprising memory (Figure 2, Reference 204); and a pointer to a location in the memory (pointer comprised of Reference 502 in Figure 5 and Reference 408 in Figure 4), the pointer comprising a block length field defining a block size (Reference 408 in Figure 4; C 11, L 57-60); a length field defining a number of blocks in a segment of memory (Figure 5, Reference 506; when the number of blocks is indicated; C 8, L 7-11); an address pointing into the segment of memory (Figure 5, Reference 508; C 8, L 22-33); and a finger field which denotes a block of the segment of memory into which the address points (Figure 5, Reference 510; C 8, L 26-29).

Additionally with respect to claim 19, Fox discloses a computer program product comprising a computer usable medium for storing data and a set of computer instructions embodied on the computer usable medium, including the above features (Figure 1, Reference 102, the storage

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element storing the code for the device driver and the hardware which executes the code for the device driver).

Regarding claims 6, 15, 24 and 33, Fox discloses the length field is decoded such that the number of blocks is indicated by adding a defined constant (zero) to the value in the length field for all but the smallest range of numbers (zero) and the smallest block size (zero).

Regarding claims 37-40, Fox discloses a data processing system comprising memory (Figure 2, Reference 204); and a pointer to a location in the memory (pointer comprised of Reference 502 in Figure 5 and Reference 408 in Figure 4), the pointer comprising a block length field defining a block size (Reference 408 in Figure 4; C 11, L 57-60); a length field defining a number of blocks in a segment of memory (Figure 5, Reference 506; when the number of blocks is indicated; C 8, L 7-11); an address (comprised of Figure 5, References 508 and 510) pointing into the segment of memory to the base address of a memory region within the segment (via Reference 508 in Figure 5; Reference 508 points to the base address of a memory region within the segment), wherein all portions of the memory segment not within the memory region having addresses less than the address in the pointer to a memory location (this occurs when the offset portion references the last region of the memory segment). Additionally, with respect to claim 39, Fox discloses a computer program product comprising a computer usable medium for storing data and a set of computer instructions embodied on the computer usable medium, including the above features (Figure 1, Reference 102, the storage element storing the code for the device driver and the hardware which executes the code for the device driver).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-4, 11-13, 20-22 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fox (USPN: 5,953,522) in view of Carter et al. (USPN: 5,845,331)

Regarding claims 2-4, 11-13, 20-22 and 29-31, Fox discloses the limitations cited above, however, Fox does not disclose the pointer to a memory location further comprising a permission field which indicates how a process may access data within the segment of memory and a capability field which identifies the pointer to a location in memory as a capability pointer having bounds and permission defined therein, which bounds the segment of memory to the number of blocks indicated by the length field, each block of size 2^B where B is a value defined in the block field. Carter teaches a pointer to a memory location comprising a permission field that indicates how a process may access data within the segment of memory (Figure 1A, Reference – Permission bits) and a capability field (Figure 1A, pointer tag) which identifies the pointer to a location in memory as a capability pointer having bounds and permission defined therein, which bounds the segment of memory to the length of the segment (C 4, 36-67; C 5, L 1-8, L 35-67; C 6, L 1-10). These features taught by Carter provide protection for the memory segments thereby allowing the processes in the system to share the address space safely (C 4, L 46-48). Thus, it would have been obvious to one of ordinary skill in the art to use Carter's

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teachings in the system taught by Fox for the desirable purpose of providing an efficient means for sharing the address space.

Response to Arguments

6. Applicant's arguments filed have been fully considered but they are not persuasive.

Regarding Applicant's argument concerning the pointer taught by Fox, the reference does not have to show both elements combined. A pointer can be comprised of multiple elements and as such the Examiner has applied a broad and reasonable application of the term. Additionally, the claim language states a pointer comprising a block field defining a block size. Since, the block field taught by Fox defines a block size, the reference meets the requirement of the limitation and it is not relevant whether the block refers to the blocks in the virtual memory or not.

Regarding Applicant's argument with respect to the address pointing into the segment. The beginning of a segment is a part of the segment and thus represents the first location in the segment. The beginning location represents into the segment.

Regarding Applicant's argument with respect to finger field, the Examiner disagrees. The finger field as claimed, denotes a block [unit of data which can be accessed] of the segment of memory into which the address points. Clearly the offset field taught by Fox denotes/references a block [or some unit of data smaller than a segment] of the segment of memory into which the address points. Applicant's argument that the vnode and the offset are needed to indicate an address pointing to a location in the memory are irrelevant as the claim language indicates nothing to

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preclude such an interpretation since the offset by itself still references a unit of data in the segment of memory into which the address points.

Allowable Subject Matter

7. Claims 7-9, 16-18, 25-27 and 34-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

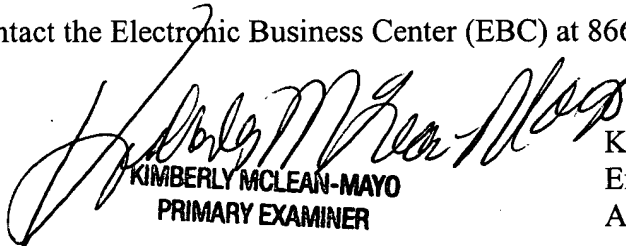
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly N. McLean-Mayo whose telephone number is 703-308-9592. The examiner can normally be reached on M-F (9:00 - 6:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 703-308-1756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KIMBERLY MCLEAN-MAYO
PRIMARY EXAMINER

Kimberly N. McLean-Mayo
Examiner
Art Unit 2187

KNM

February 17, 2004